



Why Relays with Forcibly guided contacts are an easy way to create safety solutions for safe machinery applications?

A relay with forcibly guided contacts is one of the safest electrical components to control and supervise machines, elevators, light curtains, and a lot of other kinds of equipment which has to protect humans against an accident.

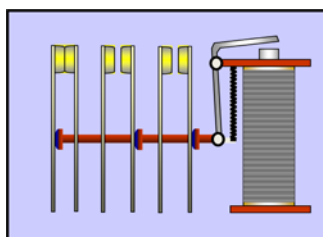
Relays with forcibly guided contacts helps manufacturer of safety related devices to design very reliable, safe and efficient solutions in the sector of machine safety.

The benefit of this relays are the force guided contacts: It's a easy way to design self monitoring control circuits with a diagnostic coverage of nearly 100 %.

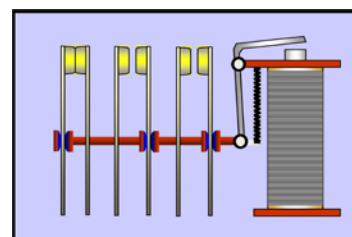
IEC 61810-3 is the available standard for „Relays with Forcibly Guided Contacts“. All relays design based on standard IEC 61810-1 “All or Nothing Relays“. IEC 61810-3 contains additional requirements for the contacts, contact set and contact guiding.

The differences between industrial relays and relays with forcibly guided contacts are:

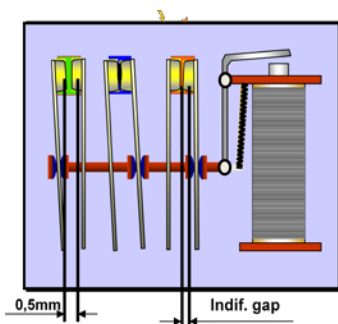
- Minimum insulation voltage of open contact 1500 V_{eff} and 0.5 mm air- gab at open contacts in fail situation.
- A forced guided mechanism prevents that normally open and normally closed contacts are closed at the same time (simultaneously).
- Contact guiding is guaranteed over the whole lifetime.



Standard contact arrangement



Forcibly guided contact arrangement



Contact set shows failure to open.

Function of contact guiding:

- Coil is not energized.
- Relay in basic position.
- First NO shows failure to open (blue)
- NC contact is in safety position (green). Air gap minimum 0.5 mm.
- Second NO contact (orange) is in indifferent position.